

## We Claim

1. A method for the preparation of an emulsion formulation comprising:
- (a) obtaining oil bodies from a cell;
- (b) washing the oil bodies to obtain a washed oil body preparation; and
- (c) formulating the washed oil bodies with thioredoxin or thioredoxin reductase into an emulsion.
2. A method according to claim 1 wherein said cell is a plant cell.
3. A method according to claim 1 wherein said cell is a plant seed cell.
4. A method according to claim 1 wherein said thioredoxin or thioredoxin reductase is obtained from *Arabidopsis*.
5. A method for preparing an emulsion formulation comprising oil bodies said method comprising:
- (a) producing in a cell a thioredoxin or thioredoxin reductase;
- (b) associating said thioredoxin or thioredoxin reductase with oil bodies through an oil body targeting protein capable of associating with said thioredoxin or thioredoxin reductase and said oil bodies;
- (c) obtaining said oil bodies associated with said thioredoxin or thioredoxin reductase;
- (d) washing the oil bodies to obtain a washed oil body preparation comprising thioredoxin or thioredoxin reductase; and
- (e) formulating said washed oil bodies associated with thioredoxin or thioredoxin reductase into an emulsion.
6. A method according to claim 5 wherein said oil body targeting protein is an oil body protein or an immunoglobulin.

7. A method according to claim 6 wherein said oil body protein is an oleosin or a caleosin.

5 8. A method according to claim 5 wherein said oil bodies are obtained from a plant cell.

9. A method according to claim 8 wherein said plant cell is a seed cell.

10 10. A method according to claim 9 wherein said seed cell is a safflower seed cell.

11. A method according to claim 5 wherein said thioredoxin or thioredoxin reductase is obtained from Arabidopsis.

15 12. A method according to claim 5 wherein said oil bodies are obtained from the same cell as the cell in which thioredoxin or thioredoxin reductase are produced.

13. A method according to claim 1 wherein said formulation is a formulation for use in the preparation of a product capable of treating oxidative stress in a target, a product capable of chemically reducing a target, food product, a personal care product  
20 or a pharmaceutical product.

14. A method for the preparation of an emulsion formulation comprising:

a) introducing into a cell a chimeric nucleic acid sequence comprising:

1) a first nucleic acid sequence capable of regulating transcription in said cell  
operatively linked to;

2) a second nucleic acid sequence encoding a recombinant fusion polypeptide comprising (i) a first nucleic acid sequence encoding a sufficient portion of an oil body protein to provide targeting to an oil body linked in reading frame to (ii) a second

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nucleic acid sequence encoding a thioredoxin or thioredoxin reductase operatively linked to;

- 3) a third nucleic acid sequence capable of terminating transcription in said cell;
- b) growing said cell under conditions to permit expression of said thioredoxin or thioredoxin reductase in a progeny cell comprising oil bodies;
- 5 c) isolating said oil bodies from comprising said thioredoxin or thioredoxin reductase;
- d) washing said oil bodies to obtain a washed oil body preparation comprising thioredoxin or thioredoxin reductase; and
- 10 e) formulating said oil bodies comprising said thioredoxin or thioredoxin reductase into an emulsion.

15 15. A method according to claim 14 wherein said oil body protein is an oleosin or a caleosin.

16. A method according to claim 14 wherein said chimeric nucleic acid sequence is introduced into a plant cell.

17. A method according to claim 16 wherein said plant cell is a safflower cell.

20 18. A method according to claim 14 in which the oil bodies are obtained from plant seeds.

19. An emulsion formulation prepared according to the method of claim 1.

25 20. A food product comprising an emulsion prepared according to the method of claim 1.

21. A personal care product comprising an emulsion prepared according to the method of claim 1.

22. A pharmaceutical product comprising an emulsion prepared according to the method of claim 1.

23. A product comprising an emulsion prepared according to the method of claim 1 capable of treating oxidative stress in a target.

24. A product comprising an emulsion prepared according to the method of claim 1 capable of chemically reducing a target.

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